

# THE RESEARCH ON THE MODEL OF RESOURCES APPROPRIATION AND COLLABORATION TYPE RUNNING HEAD: THE MODEL OF SUCCESSFUL COLLABORATION

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## ABSTRACT

*Previous scholars had advocated that the collaboration among firms can bring competitive advantage, fabulous economic performance and encourage firms should do collaboration for creating necessary innovation and competitiveness. But, there are few collaborative activities can be successful.*

*This paper compares different types of collaboration which are exploration and exploitation, and also relative impacts with resources appropriation on large firms and SMEs evaluation. To examine three case studies among Taiwanese and Chinese firms through interviews, observation, archives and employ story content analysis and it involving open coding, axial, selective coding, to form categories for three essential aspects in model of collaboration.*

*We construct an empirical collaborative framework based on resources appropriation and explore a new model that extends previous theoretical studies. Our result exhibit collaborating parties must have necessary collaborative successful factors and equal urgency to bring innovative values during activities. The created value must be transmitted to the ultimate customer, and the transmission of value improves the overall performance of the collaboration. We also find six additional factors must be added to longstanding collaborative model. This is the first study to identify those factors and align their performance relationships in the model.*

*This research contributed a new collaborative model under resources appropriation in academic and deliver managing implication to improve collaborative performance and secure its successful possibility in the electronics field.*

**KEYWORDS:** Collaboration, Case Study, Exploration, Exploitation, Content Analysis, Resources Appropriation, Successful Factors, Collaborative Model

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## INTRODUCTION

There are two kinds of strategic alliances divided into two parts which are contractual forms and equity forms. Strategic alliance participants normally adopt several strategies activities such as cooperation, coordination, collaboration to implement mutual project or goal (Zamir et al., 2014). Strategic Alliance is a commitment between two organization activities on same horizontal level in the market and share resources to create new value with some common interest. Many inter-organizational formations come into view when organizations look for creating new efficiencies by making a reliable collaborating relationship. Organizational firms that let independent firms to share various resources are known as strategic alliances.

This paper focus on collaboration activities with equity forms. The activities of internal organization

depend on collaboration in order to obtain possible success, but collaboration not usually and necessarily success and many challenges there (Haig-Brown, 2001).

Zamir, 2014 pointed out that over 81 – 100 percentage companies alliance success rate lower than 15 percent according to their large and SMEs successful alliances case around the world. The purpose of this paper seeks to discover the model of collaboration in specific cases can be followed to improve economic performance and the causal relations between firms' behaviors and effect causing.

The collaboration through existing useful related knowledge and resources available to increase value creation and new business models or behaviors can be called innovative values. The efficient innovation must be coordinated through collaboration (Oystein D. et al., 2012). Numerous previous business studies have ignored the rapid development of some developing countries, such as China, and focus on developed countries, such as the U.S., Japan, and some European countries. The collaboration between developed and developing countries has increased dramatically in the real world recently (Yu Zhang, Zhiming Cheng and Charles Harvie, 2013).

Our central research focus on the collaborative activities between Taiwan large firm with Chinese small and medium enterprises (SMEs) in different collaboration types; exploitation and exploration. The following questions in the field are keeping firms in difficulty:

Why most of collaboration successful possibility is lower than fifteen percent?

What kind of variables impact collaboration performance in collaborative model?

Which empirical collaborative model is suitable for firms?

This paper has discussions deeply for these questions in following sections.

In general, lacking empirical background research always fall into the trap of the theory, it caused the strong disputes issues between academic and practical industries in reality. Through case studies evidence and our findings, this research estimates the collaborative optimization and several important factors should be focus.

The research examines collaborations among a large Taiwanese electronic components distributor and two different collaborative types of Chinese SMEs on resources appropriation (RA). It empirically explores the Wilder Collaboration Factors Inventory (WCFI) presented by Mattessich et al. (2001); The WCFI divides 20 factors of successful collaborations into 6 categories: environment, resources, membership, purpose, communication, process and structure. This paper not only confirms success factors underlying collaboration noted by previous scholars but also incorporates 6 new factors and RA that influence why collaborations succeed or fail. Its results provide important collaborative management implications for industry.

This paper proceeds as follows. Chapter 2 theoretic background Chapter 3 methodology includes defines research questions, case selection, data collection, etc. Chapter 4 case study and analysis, Chapter 5 dialectic literature, Chapter 6 discussions and conclusion, indicates study limitations, and recommends future research.

## **THEORETIC BACKGROUND**

Usually, coalition strategies for working together are described as coordinating, cooperating, or collaborating, although the use of these terms is often confusing (Himmelman and Arthur T. , 2002). Michael Winer, Karen Ray (1994)

identified commitment intensity and duration as features that distinguishes coordination, cooperation, and collaboration.

Cooperation involves a moderate short-term commitment with informal and temporary relationships, individual objectives, resources, and structures. Its purpose is to share information and effort. Coordination is marked by stronger commitments over a longer period. It is based on the establishment of specific projects, plans, roles, and shared resources. Collaboration features the strongest commitment; sustained relationships compare other strategies in strategic alliance, common goals, and shared benefits. Although collaboration need not be statutory, it is an agreement to share resources to implement projects (Bailey and Koney, 2000). Practically, collaboration tends to joint venture to secure mutual contractual relationship, suitable proportion rate in benefit distribution based on cases of this paper.

Collaboration involves multiple organizations or associations external to firms' structures. Collaborations are complex combinations and new Groupings created to reduce risks, costs, and time, to improve efficiency, expand scale, and secure economic benefits. Collaborations that do not meet these objectives may fail. Although hundreds of studies expound upon the aspects of collaboration or report practitioners' successes, few examine its aspects via case studies (Derose et al., 2004; Mizrahi and Rosenthal, 2001).

When a firm decides to alliance for specific purpose, it must know its partner's environment, membership, processes, structures, resources, and communications (Mattessich, 2001). As Mattessich notes, "Subsequent studies can clarify what factor might be the most important and which factors and concepts can be combined, as well as studies that have not identified any other success factors." Subsequent scholars have pursued that direction, validating factors underlying successful collaborations and identifying new factors. However, agreements governing strategic alliances normally include the exchange of information, the co-development of products, or the sharing of service platforms (Gulati R., 1998).

The main stream of collaboration type was divided to exploration and exploitation. The explorative collaborations are develop and design new market, new products or to establish supply chains and implement value chain. The exploitative collaborations utilize and develop existing technology and resources. The exploitative collaborations are more suitable between SMEs and large firms than explorative collaborations (Haibin Yang, Yanfeng Zheng, and Xia Zhao. 2014.). The explorative collaborations pertain to new technology development and product design, the exploitative collaborations pertain to marketing, supply chains, or business models, Whether collaboration is explorative or exploitative, the extent to which SMEs benefit and how managers implement strategies are primarily questions for strategy decision maker.

Papadopoulos, A.; Cimon, Y. and Hébert, L. (2008) had argued TCT can be characterized by low heterogeneity-high innovation" alliances, RBVT by high heterogeneity-low innovation alliances, KBVT by high heterogeneity-high innovation alliances, and NDT by low heterogeneity-low innovation alliances. Alliances that feature higher heterogeneity and innovation can enjoy greater opportunity to create innovative value and deliver it to customers to achieve successful collaborations. It can also explain why Yang (2014) argued that explorative collaboration can contribute more value creation to customers through new technology and products.

It is an extension of the existing frameworks that are connected via the variables of individual effort and Group productivity, which are present in our case study; the latter consists of model quality and consensus, which are both important products of the model building.

Two streams of prior work have addressed the determinants of alliance governance: a transaction cost economics (TCE) view, which generally concludes that more hierarchical forms of governance are associated with transactions characterized by increased appropriation hazards (Pisano GP, 1989; Oxley JE, 1997); and an organizational approach, which examines the choice between alternate modes of governance taking into account firm-level considerations (Aggarwal VA, Hsu DH., 2009; Dyer JH, Singh H, Kale, P., 2008; Villalonga B, McGahan AM., 2005; Gulati and Singh, 1998). The purpose of collaboration is same with TCT such as minimize costs, increase efficiency, and accelerate economic benefits more aggressively. Thus, TCT can conduct collaborative intention in strategic alliance.

Collaboration among firms must combine, share, and use resources required to meet the standards of Resource-based-view theory (RBVT). TCT provides RBVT an impressive reason to develop (Teece, David, 1981). RBVT contributes to the study of tangible and intangible resources (Barney, J. B., 2001) and stimulates research into collaborative dynamics (Fjeldstad, Øystein D. and Snow et., al, 2011, Das T. K. & Teng, B. S., 2000, Rumelt, R. P., 1991). RBVT push firms to exchange necessary complementary resources among collaborators.

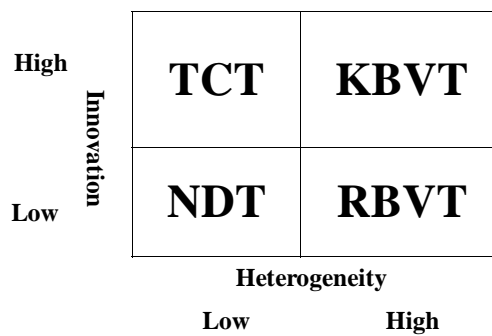
Knowledge-based-view theory (KBVT) focuses on bounded rationality. Scholars of KBVT examine barriers between organizational knowledge exchange and production (knowledge creation) and conclude that opportunism is a necessary but not a sufficient condition (Ghoshal, S. & Moran, P., 1996). Knowledge is a crucial strategic resource (Grant, R. M., 1996) and the most difficult to transact. Through cognitive distance (Nooteboom, B., 2000) or cognitive loss (Grandori, A., 2001), firms cannot create value without full exchange of knowledge. In addition, uncertain behaviors and self-interest among partners create unintentional knowledge spillovers and abuse of transaction processes. The resulting knowledge crisis means firms cannot protect appropriative resources. Thus, firms incur expenses to prevent appropriative knowledge spillover and damage to the collaborative relationship.

The Wilder Collaboration Factors Inventory (WCFI) presented by Mattessich et al. (2001) divides 20 factors for successful collaborations into 6 categories: environment, resources, membership, purpose, communication, process and structure. The WCFI factors can be first priority in bridging cognitive distance and preventing crises and collaborative activities will create new knowledge to increase productivities (Mattessich Paul, Murray-Close, M., & Monsey, B., 2001).

Theotonio Dos Santos (1970) proposed new dependency theory (NDT), which focused on the transition of specified transnational capitalism to the monopoly stage of capitalism in 50s–60s, and entered a new period of foreign capital reliance for industrialization in developing countries with three forms: business-export, financial-industrial, and technical-industrial dependency.

Papadopoulos, A.; Cimon, Y. and Hébert, L. (2008) had argued TCT can be characterized by low heterogeneity-high innovation” alliances, RBVT by high heterogeneity-low innovation alliances, KBVT by high heterogeneity-high innovation alliances, and NDT by low heterogeneity-low innovation alliances.

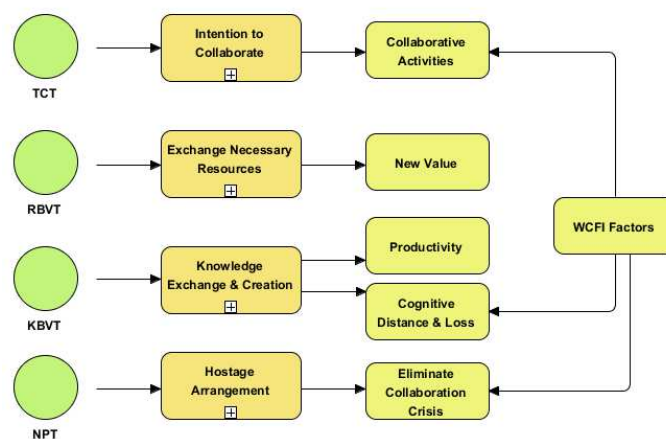
Figure 1 indicates four basic theory relationships in alliances with two dimensions: heterogeneity and innovation strength.



**Figure 1: TCT, RBVT, KBVT, and NDT Scaled by Heterogeneity and Innovation**

Alliances that feature higher heterogeneity and innovation can enjoy greater opportunity to create innovative value and deliver it to customers to achieve successful collaborations. It can also explain why Yang (2014) argued that explorative collaboration can contribute more value creation to customers through new technology and products. We have used a reduced version of the activity diagrams of Visual Paradigm/BPMN modeling tool instead of UML that Rittgen P. (2010) proposed.

According to theoretic background review about TCT, RBVT, KBVT, NPT, we may draw causal diagram in related collaborative activities. See Figure 2. The TCT alliance engenders collaborator intention to collaborating with another partner to reduce its cost in monitoring and managing. The RBVT alliance inspire collaborator to exchange necessary resources for new value creation. The KBVT conduct knowledge exchange and creation that not only for productivities but also derive cognitive distance and loss. The NPT cause hostage arrangement to eliminate collaboration crisis. The WCFI can contribute positive impact on collaborative activities, cognitive distance and loss, eliminate collaboration crisis.



**Figure 2: Causal Diagram in TCT, RBVT, KBVT, NDT**

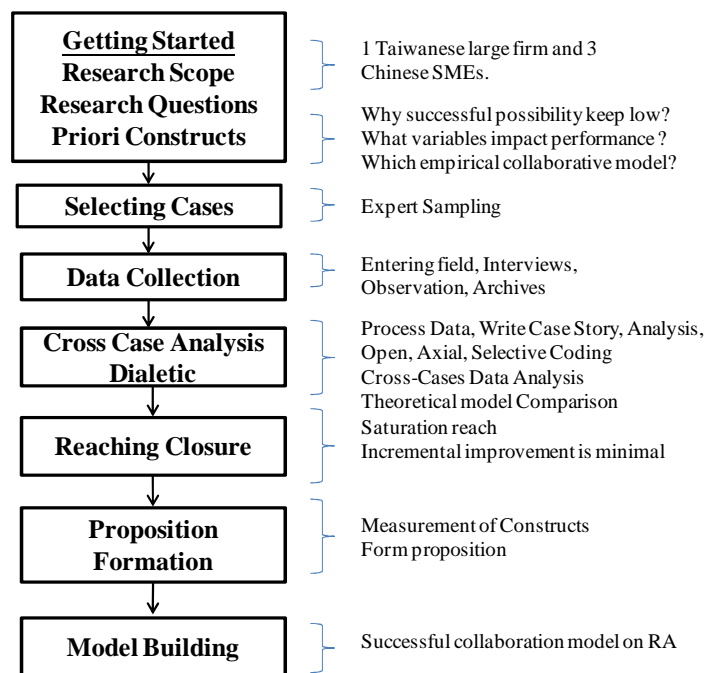
## METHODOLOGY

Previous studies of collaboration involve investigation research and secondary data. However, that approach is prone to retrospective and consistency bias (Johnson and Gerstein, 1998). Also, secondary data cannot be used to measure some constructs in this study. Hence, this paper adopts observations, interviews, archive to acquire first- hand data.

Einsenhart (1989) advocated case study is valuable to study dynamic status in a single background. It can be adapted in a field of new research topic as below:

- Define Research Question.
- Selecting Cases
- Crafting Instruments and Protocols
- Entering the Field
- Analyzing Data
- Shaping Hypothesis
- Enfolded Literature
- Reaching Closure

The 8 procedures from Einsenhart can be modified based on practical case and proposed as below (see figure 3):



**Figure 3: Einsenhart 8 Procedures in Case Study**

This research synthesis Einsenhart (1989) and Yin (1994) design logic in case study for research design. Pentland (1999) proposed narratives to identify relationships between events occurring within processes. Author's reputation and connections in the electronics field facilitated access and form case story. The cases in businesses include electronics components distributors, smartphones independent design houses and fables IC (Integrated Circuit) company. We accept the referral from academic and industrial experts and adopt expert sampling. The expert sampling with cases involved different types of business content that may affect the nature of collaborations and value created. The detail company specifics description as Table 1.

Table 1: Specific of S Group and each SME

Case	Company	Company business	Collaborative type	Collaboration Method	Appropriative Resources	Collaborative result
	S	Large Electronics Distributor in Taiwan			Well Finance, Logistics, Experience in Collaboration, Legitimacy in the field	
A	A	Electronic components distributor in China	Exploitative collaboration with S	Equity Investment: 65%	Relationship with Chinese government, vendors & customers	Success
B	B	Smartphones Independent design house (IDH ) in China	Explorative collaboration with S	Equity Investment: 50%	Smartphones integration design, Well relationship with IC vendor relationship	Success
C	C	Fables IC design (Type C ) company in China	Explorative collaboration with S	Equity Investment: 50%	IC design ability, Well relationship with US IT brand company	Failure

The reason we selected one large Taiwanese electronics components distributor that collaborates with three emerging Chinese SMEs for case studies since real cases in collaborative activities. Two different business content of collaborative type can conduct our research comparison in two poles that will be more concrete evidence to construct a collaborative model. The diametrical reality can lead saturated content to cause situational model. Reference figure 4, we are targeting all variables appear a convergence situation finally, the model can be constructed.

We are seeking for consistent constructs and category through three cases of situational analysis; we can then remove outlier to reach maximize external validity and achieve empirical comparison in research. The generic successful model in strategic alliance can be formed after three cases study. The figure 4 provides visual understanding in model formation. Y means successful collaboration strength and X express each constructs to build successful collaboration. After comparison in three cases, we can construct generic collaborative model in strategic alliance.

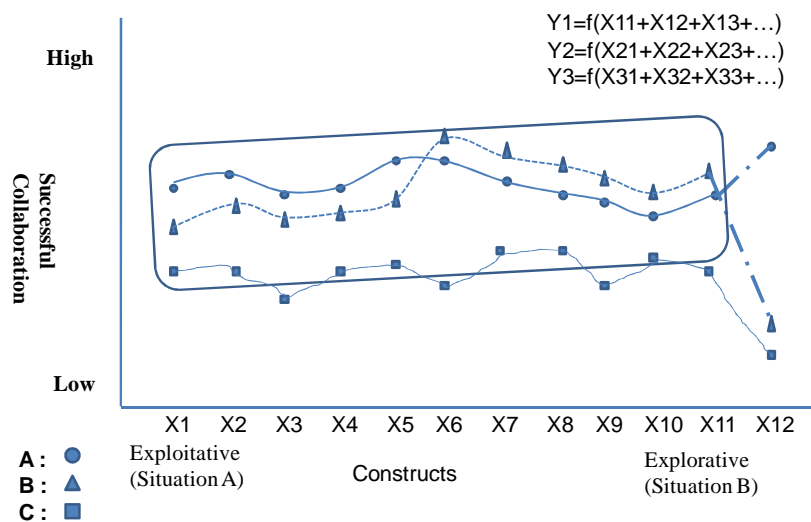
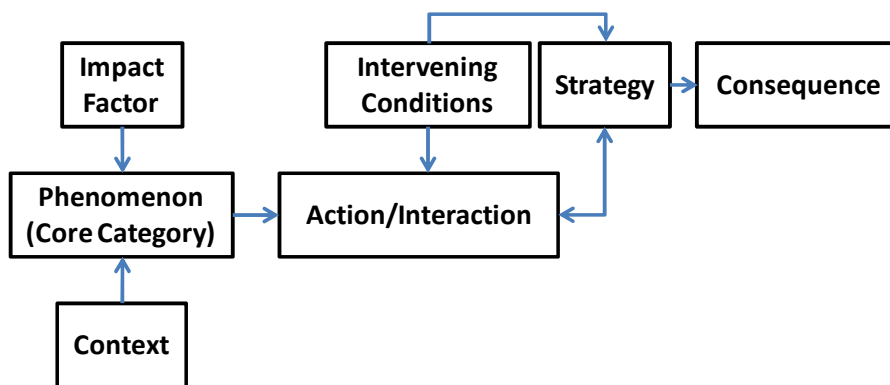


Figure 4: Situations Analysis

Strauss intensified that axial coding mainly focus on core category and causal relationship with every process to form a story line. We argued that Strauss's analytic paradigm axial coding existing imperfect area that not clarity enough. We propose another reference paradigm for more suitable story line to meet practical case story as figure 5.



**Figure 5: Modified Strauss's Axial Coding Analytic Paradigm**

The impact factor and situational context form core category and action/interaction for new creation to final consequence. The intervening condition will affect mutual activities and interact with strategy. These causal in each procedures can be formed a story line in real case.

Cross-case analysis is mutual coupling with the aim of looking for patterns across cases, Eisenhardt (1989) and Yin (1994) identified that in a number of case studies, cross-case comparative method in analysis uses pattern comparative method to examine data in accordance with emerging theories of different cases if there is the same result.

This paper emphasizes the formation of successful collaborative model and collaborative activities management in the case, rather than in conjunction with previous theories, so that well grounded in data and capable for amendment, supplement and extension of the successful collaborative model. The formation stage of proposition is including measurement of constructs and empiric (Eisenhardt, 1989). This procedure is in accordance with the researchers' subjective judgments, rather than statistically significant. The procedure of propositions formation and data analysis are highly repetitive and overlapping

The proposition formation in this paper was the previous data collection, data analysis, and subsequent theory is duplication. The nature of exploration is early data collection, case analysis, cross-case analysis and overall impression to form temporary relationship between topics, concepts, and variables. This paper developed major constructs, composition element and attribute of constructs; it contains a definition and description of constructs, attributes and lists the operational definition and case evidence. Through this comprehensive procedures can develop the relationships between constructs and successful collaborative model step by step.

According to Glaser, B. (2011) comment that when theoretical saturation is reached, researcher should stop iterating between cases content and model which incremental learning is minimal. When the incremental improvement in its quality is minimal, it is time to ending the revision of proposition and model can be generated. Most pragmatic considerations often combine with theoretical saturation such as time and money. We then conduct propositions and construct successful collaborative model.

## CASE STUDY AND ANALYSIS

### S Group

S Group was founded in 1987 in Taiwan and expanded in 1993. One international brand —SSG Franchises—began to dominate its market in 1996. At that time, SSG asked S Group to build inventories, and customers asked for a safety stock plan that required a warehouse near its factory. These requirements for enhanced onsite support pushed S company



to upgrade its logistics and engineering. It also provided an engine of growth for S Group.

In 1998, S Group erected a warehouse in Hong Kong to enhance its rapid response capability and raised its logistical capabilities in Taiwan, Hong Kong, and China. This upgrade in resources solidified S Group's position and reputation in its industry.

S Group began to modify its China strategy and established branch offices in Shenzhen, Shanghai, Suzhou, and Beijing in 2000. The expansion supported steep growth. A successful IPO in 2001 enriched working capital and convinced SSG to open more territory to franchisees. S Group consolidated revenues reached \$1.1 billion in 2005. Full securities listing followed in 2007 when revenues reached \$ 1.5 billion.

The 2008 global economic crisis dealt a severe blow to S Group and its customers. Senior management decided to moderate the firm's organizational structure and to diversify internally.

The China government hoped to eliminate the crisis by stimulating exports, consumption, and investment. However, external market demand cannot be controlled, and the government was unwilling to reform national income distribution to overcome rigid consumption patterns. That left investment—particularly in infrastructure and real estate—but investment in real estate was contrary to China's macro-control policies and offered only temporary encouragement.

Ultimately, the government responded to the crisis by seeking to create domestic market demand, a course not taken by other governments. For that response to be effective, China government needed a huge internal market, but one supported by laws, policies, funds, and a comprehensive production capacity.

S Group knew that its growth needed to be consistent with governmental policy and the market. It saw that smartphones offered an enormous opportunity on Mainland China as GDP recovered, consumers transited to branded mobile phones, and makers of electronic components built relationships with distributors. Moreover, the government had taken two steps that reinforced the trend in the market: it persisted with its policy of spreading home appliances to the countryside, and it signed a Free Tax Agreement with the ASEAN 10 countries that potentially opened a huge market for Chinese suppliers.

Moreover, China government—which historically intervenes to protect market share for domestic firms—launched its twelfth five-year plan to attract private investment. Young Chinese entrepreneurs responded enthusiastically by investing in new ventures, and S Group sensed an opportunity to connect with them. S Group's revenue had grown substantially by the end of 2009, increasing its market value to \$3 billion and ranking it among the top ten electronics components distributors in the Asia-Pacific region.

We analyzed S Group's alliances with three SME collaborators.

## **Case A**

### **Collaborative Intensity**

S Group needed access local SMEs' informal relationship with stakeholders to dominate Chinese market for branded smartphones. Partner selection is the first priority in strategic collaboration, especially in current dynamic and complex environments (Glaister and Buckley, 1996). As highlighted by Lambe and Spekman (1997), alliance success is determined largely by smart partner selection. But partner selection is not an easy task, especially cultural, behavioral, and

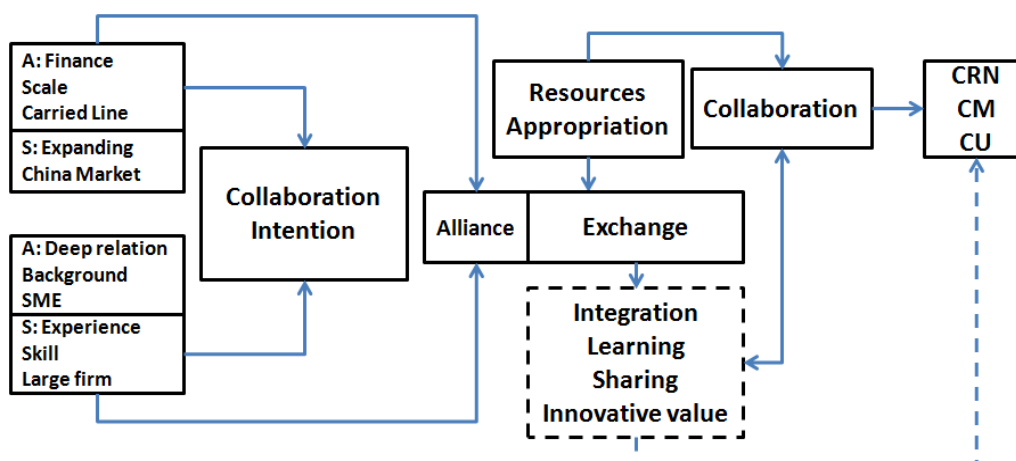
philosophy, attempt, organization, alliance experience, firm size (Tien, et al., 2016).

Company A intended to collaborate with a large firm to resolve problems in financing, credit, inventory management, and logistical support for its survival. Although both parties (S Group and company A) needed complementary resources, the intention to collaborate depends on the urgency and necessity of that need. Three constructs; complementary resources necessity (CRN), collaboration motivation (CM) and collaborative urgency (CU) can be formed in case A. On the basis of case A story, company A's collaborative intensity was stronger than S Group's. More detailed content analysis appears in Table 2.

**Table 2: S Group and Company A Collaborative Intensity**

Category	Constructs	Operational definition	Axial Coding	Open coding
Collaborative Intensity	Necessity of complementary resources	Enterprises lacking or difficult to create its own resources at short time, usually need to rely on necessary external resources to fill the gap or either internalization to create new value.	"Five Tung" relationship: neighbor, classmate, cousins, co-workers and friends.	Company A well know market information about smartphones in China and closed relationship with Chinese smartphones branding companies. Typical "Five Tung" relationship is one of the Company A complementary resources that S Group pursuing.
			Good relationship with customer and own decision power in customer site.	Company A owns good relationship with Chinese firms and abilities to impact firm's decision making.
			Control key components in smartphones.	Company A carries application processor (AP) product line which is main chip in smartphones.
			Need large firm's support in inventory management, knowledge and finance.	In 2009, Company A immature abilities such as finance, inventory management, logistical shipping, customer services. It led shipment out of control and frequent complains from customers.
			S Group was surveying possible collaborative partners in China.	S Group healthy finance, well logistical management, mature collaborative experience but lacking in relationship with Chinese firms.
	Collaborative motivation	All participants partner has its purpose and goal and expect to get benefits from collaboration and cause collaborative motivation.	Related resources support.	Company A was looking for external supports on logistic, management knowledge, technical.
			Legitimate position requirement.	Company A need large firm to support its position in front of principles and customers.
			Requirements of business expansion.	Company A only own one RF chip franchise, not so easy to occupy big marker share in the field.
			Eager to enhance its logistical management, industrial position.	Company A wish to get knowledge in management skill such as logistical inventory.
			Requirements of innovation, business growth engine.	S Group internal innovative growth slow, need to get external growing energy.
	Collaborative urgency	Intend to collaborate with large firm in urgency for survival.	management ability insufficient, lack of resources and knowledge	In 2009, Company A faces economy collapse due to inventory control, finance background, return material authorization (RMA), shipping out of control.

According to our analysis paradigm in collaborative intensity, we can sketch out the story line as figure 6. Impact factors include company A's finance, scale, carried line; S Group include China market expanding ambition. The context of company A contains customer relationship, business, and relationship background. The context of S Group includes collaboration experience, coordination skills and large enterprises, leading collaboration intension on both sides. Both sides began alliance planning and exchange information, resources mutually, but RA intervene collaborative behavior. New value contains an integration, learning, sharing, and caused the innovative value of collaboration, forming a complementary resource necessary (CRN), collaboration motivation (CM) and collaborative urgency (CU).



**Figure 6: Axial Coding in Case a Collaborative Intensity**

### **New Wilder Collaboration Factors Inventory (NWCFI)**

Both S Group and Company A had resource issues that hindered their intentions toward the market and sought to resolve them by collaborating. Collaboration requires clear definitions of responsibility, structure, process, communication, and commitment to a shared purpose and vision.

In case A, besides the 20 WCFI factors already noted, we identified 6 new more factors that are essential to successful collaborations but not listed in the WCFI. Two new factors Commitment and Sharing—fall under the membership construct in Table 3.

Commitment involves accepting responsibility cover, follow-up, and distributing benefit based on the equity ratio. Sharing involves the apportionment of resources, knowledge, loading, value, benefit need for collaboration.

One new factor—Satisfying resource needs—falls under the purpose construct in Table 3.

Satisfying resource needs, in this case, S Group could satisfy Company A's needs for financial, logistical, and technical support.

Three newly discovered factors—Yielding interest, Hostage arrangements, and Joint learning—constitute the entirely new construct - management in Table 3. Large firms can reduce cognitive crises by yielding interests. Hostage arrangement is capable to soften cognitive distance arising from resources appropriation and reduce the protective mechanisms which arising from the value appropriation effect (VAE). Mutual learning includes compromise, management knowledge, technical, and negotiation skill.

In this case, Company A could learn from S Group how to deal with stakeholders and reduce transaction costs in managing its primary business.

Table 3: S Group and Company A NWCFl

Category	Constructs	Factors	Axial Coding	Open coding
New Wilders Collaborative Factor Inventory (NWCFl)	Environment	History of collaborative experience.	S Group is focal firm to drive collaboration operation.	S Group owns well collaborative experience.
		Legitimate position in the industry.	S Group is capable to bring its leadership and share benefit to Company A.	S Group owns legitimate position in the field to assist Company A boss acquires a smartphone's AP chip franchise from Taiwanese supplier.
		Favorable political and social climate.	After 1965, Chinese market is open for FDI and offer incentives.	Chinese government open the market, collaboration becoming a trend among firms.
	Resources	Appropriative resources.	The bilateral appropriative resources attract collaborative intention.	S Group owns mature business operation skill and Company A owns technical know-how.
		Skilled leadership	Resources can be swapped each other.	Both sides resources can be transferred among participants.
	Membership	Mutual respect, understanding, and trust.	S Group show up focal firm paragon.	S Group trust A and release management right to A.
		Appropriate communication of members.	Based on S Group experience in alliance.	Both sides set up top manager team (TMT) meeting routinely.
		Belief for interest in collaboration.	Sale collaborative concept to earn the interest.	S Group and Company A agree that collaboration can bring them benefit.
		Ability of coordination.	S Group is able to fix conflict issues.	S Group owns compromise ability.
	<i>New finding in membership</i>	<i>Commitment(New finding)</i>	Collaborative participants promise fair benefit distribution.	Commitment for benefit distribution based on equity ratio and responsibility cover.
	<i>New finding in membership</i>	<i>Sharing(New finding)</i>	Not easy to share own resources at initial stage due to value appropriation effect.	S Group share its resources: knowledge, values, economic benefit to win back trust, resources release commitment from Company A.
	Process and structure	Partners awareness in process and outcome.	Collaborative activities not smooth at the initial stage but improve it after years.	At initial stage both sides always doubt opposite will obey commitment and turn to mutual trust after more collaborative activities.
		Multiple layers of participation.	The main reason is everybody need to be involve in.	No matter high and middle layer, all employees join collaborative activities.
		Flexibility	The process turn to efficiency.	Both sides agree that appropriate process in efficiency can accelerate collaborative activities.
		Development of clear roles and policy guidelines.	Clear role and responsibility will save transaction cost and timing.	S Group in charge of logistical, technical support and finance platform. Company A in charge of sales, marketing and customer relationship management.
		Adaptability	Culture distance can be soften during interactive activities.	Routine meeting and visiting each other to integrate mutual different culture.
		Appropriate pace of development.	Improve process and structure depends on management ability.	A dedicate platform to develop suitable process and structure.
	Communication	Open and frequent communication.	Open, more communicate increase mutual understanding and trust.	Company A communicate with S Group frequently, open discussion and improve collaborative activities.
		Established informal relationships, communication.	Informal social activities is very important for collaboration success.	Both sides play golf frequently and connect each other via Line and Wechat.
	Purpose	Concrete, attainable goals and objectives	Clarify the purpose at initial stage.	Both sides has mutual agree goal and objective.
		Share vision	Vision bring motivation and expectation.	Both sides identify same vision.
		Unique purpose	Purpose should define clearly in short, middle, long term.	Clear target to expand business and standing in solid position in the field.
	<i>New finding in Purpose</i>	<i>Satisfaction of complementary resources needs.(New finding)</i>	Satisfy its motivation to keep moving to next cooperation and that's also why partner wants collaboration.	Satisfy Company A needs in finance, logistical, technical support needs, and satisfy S Group needs in relationship with Chinese smartphones branding Company.
	<i>Management (New finding)</i>	<i>Yielding interest</i>	Convince partner enjoy in collaborative operation and moving along with partner without doubt.	S Group assists Company A acquires a AP chip franchise from Taiwan and support logistical activities, these efforts reduce cognitive crisis.
		<i>Hostage arrangement</i>	Hostage arrangement can make both operation relationship more close and solid.	Hostage arrangement and pledge arrangements precisely soften cognitive distance of appropriative value, detract protection mechanism derived from value appropriation effect.
		<i>Joint learning</i>	Bilateral learning keep collaborative activities more smooth.	Mutual learning on compromise, management knowledge, technical, negotiation skill.

According to our analysis paradigm in collaborative factors, we can sketch out the story line. Impact factors of company A include trust, respect and clear target; impact factors of S Group include endorse company A, sharing, interactivities. The context of company A contains the share relationship to Group S, familiar with marketing. The context of Group S includes benefit sharing, joint learning and hostage arrangement. Therefore leads to mutual understanding, began alliance planning and collaborating activities, but VAE intervene collaborative behavior. New value contains the possible satisfaction, coordination, ability, benefit sharing between the visions of sharing. WCFI 20 factors and new findings in collaboration success 6 factors to form a NWCFl see figure 7.

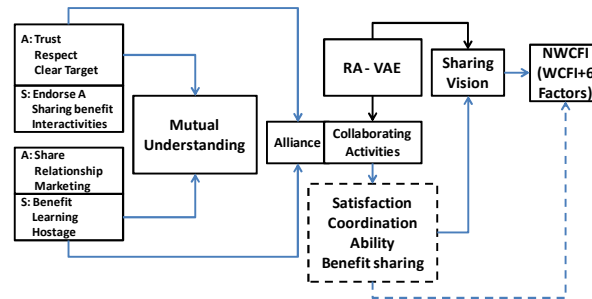


Figure 7: Axial Coding in Case A NWCFI

## Collaborative Value

Collaborations are intended to create innovative value from the resources appropriation of particular partner. Asymmetric appropriative resources might influent resources appropriation and engender protective responses, portending cognitive loss and cognitive distance. Cognitive distance conducts crisis to fail collaboration that empirical evidence from the content analysis of Case A.

The new value will be detracted owing to unexpected loss in organization governance and value appropriation effect. While customers capture new value from collaboration with satisfaction, collaborative performance should be assessed in high if this new value are significant influence on competitiveness, sensitivity, reliability, flexibility, productivity, and then. More detailed analysis appears in Table 4.

Table 4: S Group and Company A Collaborative Value

Category	Constructs	Operational definition	Axial Coding	Open coding
Collaborative Value	Appropriative Resources (AR)	Every participants own its particular resources with different value. The appropriative resources cause value appropriation effect and led protection mechanism, make value cognitive loss and crisis to impact collaborative performance negatively.	The values of Company A in "Five Tung" is the necessary external resources which S Group needs. Company A try to protect it and reject to release out that trig protection mechanism to impair opportunist, and derive value appropriation effect.	Company A well known Chinese dynamic message in smartphonestess market since good relationship with Chinese branding companies and that can provide entry ticket of Chinese market. Company A worry its appropriative resources either grab or improperly merge by S Group. It caused Company A protect its resources tightly and both sides appeal cognitive crisis. Company A considers S Group as free rider and its efforts and value contributions are greater than S Group. Company A intend to get more benefit sharing from prior 65:35 to 35 :65 ratio, it against previous deal that benefit distribution by equity ratio.
			S Group is the focal firm in this collaboration.	S Group appropriative value are financial endorsement, Logistic management, technical support and legitimate position in the industry .
	Value Creation (VC)	The collaborative participants utilize leverage application in the alliance for exchanging and merge mutual resources each other and create new values that impossible to get from other organization governance.	Quick response in the market and increase competitiveness.	Company A modify the business direction based on its market sensitivity and production plan from firms.
			Exchange advanced technical knowledge to customer site.	Company A well relationship with firms and get involve in decision making.
			Company A growing due to new franchise with S Group endorsement.	S Group deliver its relationship with AP principles from Taiwan and help Company A get its franchise.
			S Group provide reliable shipping.	S Group experienced logistical support, well inventory control.
	Value Capture (VCA)	Company A and S Group create new value for customers through collaboration.	S Group pull Company A in high position in front of bank.	S Group healthy finance to make Company A approach bigger business and get more benefit, more credit from bank.
			Competitivity	The technical and finance capability deliver to help customer get benefits.
			Sensitivity	Company A deliver new technology, market information to customer.
			Reliability	Both sides deliver goods in time and meet customer's needs.
	Value Appropriation Effect (VAE)	The protection mechanism caused hidden appropriative resources, and passive activities in business.	Flexibility	Combine both sides resources and deliver service to customer.
			Productivity	Reliable goods and competitivity and flexibility, more supply chain efficiency.
	Value Appropriation Effect (VAE)	The protection mechanism caused hidden appropriative resources, and passive activities in business.	Protection Mechanism	company A worry and anxious about S Group misappropriation and improper internalization for its appropriative resources.

Similarly, according to our analysis paradigm in collaborative value, we can pour out the story line. Impact factors of company A contain relationship, marketing, and channel; impact factors of S Group include finance, shipping, and management ability. The context of company A contains advanced knowledge, familiar with China government's policy. The context of the S Group includes bank credit, position in the field. As a result both sides desperately intend to get partner's value then start to value integration of planning and collaboration, but VAE intervene collaborative behavior and value exchange. New value contains the competitiveness, sensitivity, reliability, and flexibility derived to form appropriate resources (AR), value creation (VC), value capture (VCA) and value appropriation effect (VAE) four constructs, see figure 8.

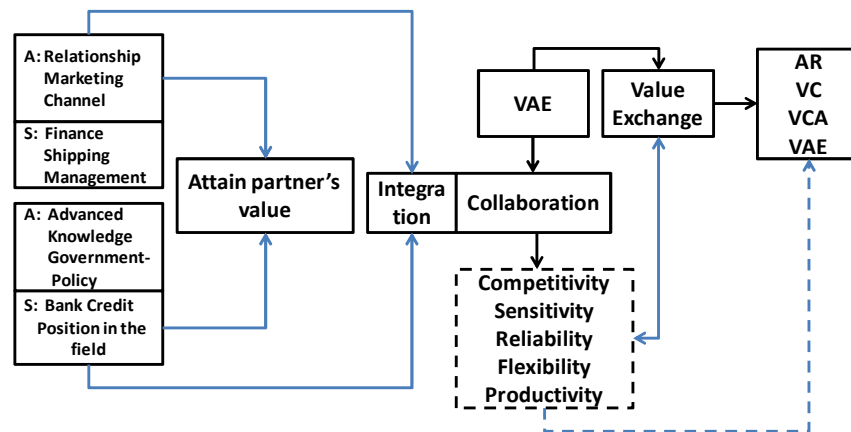


Figure 8: Axial Coding in Case A Collaborative Value

## Case B

### Collaborative intensity

Company B offered S Group several informal relationships in “Five Tung” such as neighbor, co-worker, classmate, and friends. Company B owns entrepreneurship, and solution designing ability in Smartphones. However, the comparisons with case A in similarities are company B faced collapse, insufficient resources to survive lengthy periods of engineering research and development and eager to find external resources, and thus its collaborative intensity was greater than S Group's.

The differences with case A that company B owns advanced technology know how, design ability that are capable to impact customer's decision, so company B is seeking for co-design partner in platform not only venture company. Company B carries application processor (AP) product line which is main chip in smartphones.

According to our analysis paradigm in collaborative intensity, we can sketch out the story line as figure 9. Impact factors include company B's long return of investment (ROI) in technical, small scale, carried line, company also cannot absorb highly risk in technical investment; S Group includes innovative technology demanding, supply ratio of Smartphones. The context of company A contains AP supplier's relationship, business, advanced technology and SMEs. The context of S Group includes collaboration experience, coordinated skills and large enterprises. Both sides have intention to collaborating and began alliance planning and exchange technical knowhow, resources mutually but RA intervene collaborative behavior. New value contains a new technology, joint learning, and resources sharing caused the innovative value of collaboration, forming a complementary resource necessity (CRN), collaboration motivation (CM), collaborative urgency (CU) and collaborative risk management (CRM).

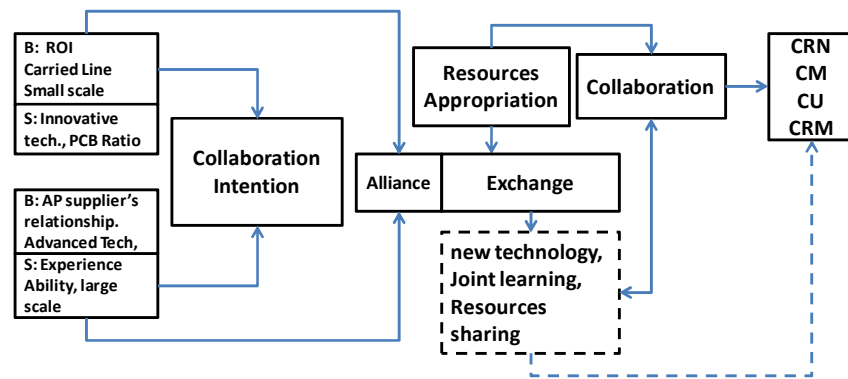


Figure 9: Axial Coding in Case B Collaborative Intensity

### S Group and Company B New Wilder Collaboration Factors Inventory (NWCFl)

Company B faced a severe compensation claim from customers and it strengthens its collaborative intention. S Group wanted to integrate technical services and acquire franchise via Company B's relationship with an AP supplier in Taiwan. Similarly, Case B highlighted the importance of the 8 new collaborative factors and 6 of 8 that emerged in Case A, the remaining 2 factors appear in.

The extra 2 new factors in case B are

Timely favor: S Group provided timely favor to company B in technical issues.

Awareness: S Group aware company A worry that S Group may create initial relationships with the local suppliers directly and that will damage company appropriate resources and take immediate action that promise interests from franchise split to company B based on equity ratio in first 3 years. These 2 factors formed favor distribution.

The differences with case A are company B distrust S Group due to company B intend to secure their technology know how, company B request that S Group need to transmit more benefit and company B is difficult to share technology to S Group at initial stage but after coordination, agree to share its knowledge to S Group. Based on our analysis paradigm in collaborative factors, we can sketch out the story line as figure 10. Impact factors of company B include Engineering, advanced knowledge, purpose; impact factors of S Group include: strong financial Platform, matured skill. The context of company B contains engineering style company. The context of Group S includes intend to acquire Chinese IC suppliers. Therefore leads to mutual understanding, began alliance planning and collaborating activities, but VAE intervene collaborative behavior. New value contains satisfaction, joint learning, and hostage arrangement between the interest sharing. The WCFI and 8 new factors findings in collaboration success factors can form a NWCFl.

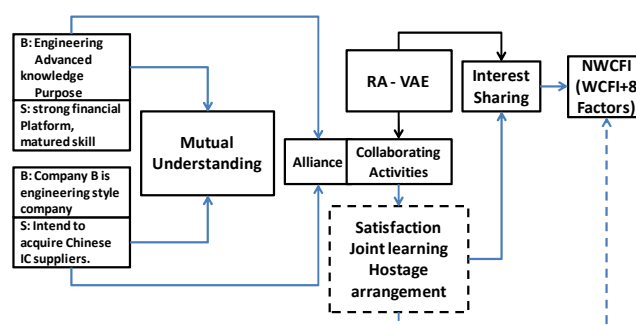


Figure 10: Axial Coding in Case B NWCFl



## Collaborative Value

Value creation is the goal of collaboration, irrespective of the needs it satisfies. Created value must be transferred to customers, but collaborators must understand what values the partnership appropriates beforehand.

During the initial stages of collaboration, conflicts arise frequently and affect value appropriation. After a period of adjustment, Company B realized that value must be created before consumers recognize it and attribute it to both companies.

The comparisons with case A in similarities are both sides owns individual particular resources, well relationship with AP vendors since typical "Five Tung" relationship.

The differences with case A are company B is engineering style company who owns the know-how for smartphones application processor (AP) and Company B work with S Group to fix DRAM issues, need S Group help customer fix uncertain bugs in smartphones project.

Similarly, we can sketch out according case B in collaborative value story line, see figure 11.

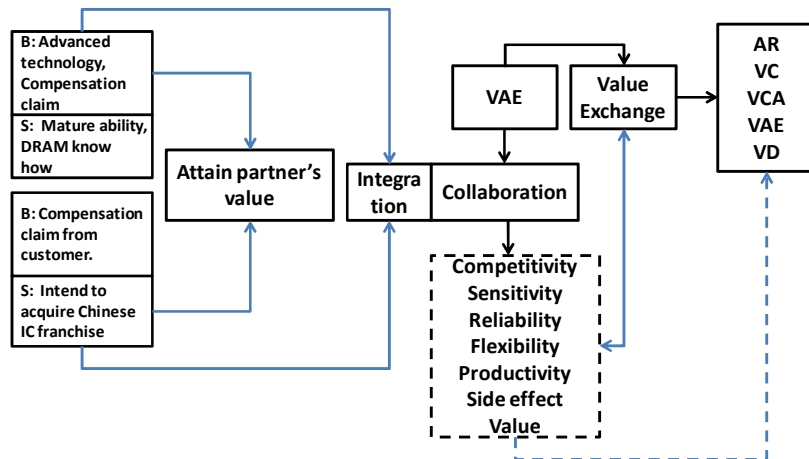


Figure 11: Axial Coding in Case B Collaborative Value

## Case C

### Collaborative Intensity

Company C offered an appropriative resource which is technology in collaboration. Company C owns relationship with worldwide tier one customer's endorsement in their USB solution designing in electronics field. However, the comparisons with case A and B, company C owns particular resources in USB IC but not in marketing and they need complementary resources who owns sales channel such as S Group.

Based on our analysis paradigm in collaborative intensity, we can sketch out the story line as figure 12. Impact factors include company C need large firm to promote its product and tier one company approved its products; S Group need USB 3.1 technology. The context of company C is 2 failed experiences in collaboration. The context of S Group includes collaboration experience, occupation rate in smartphones. RA intervene collaborative behavior. The expected new values created in the collaboration are competitiveness, market domination, technology leading. Both sides forming a complementary resource necessity (CRN), collaboration motivation (CM), collaborative urgency (CU).



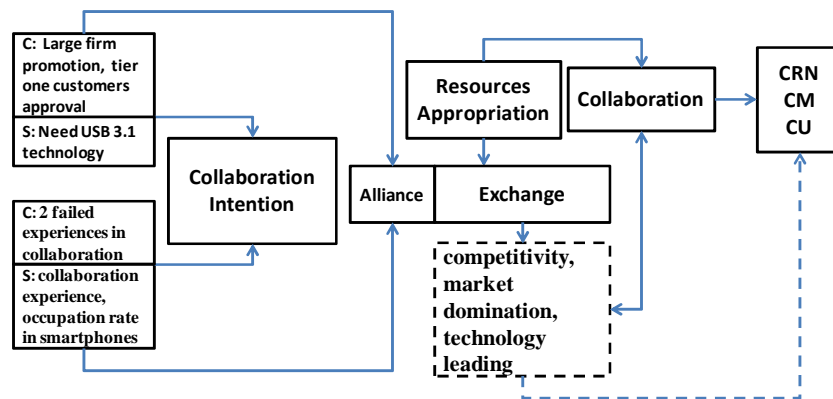


Figure 12: Axial Coding in Case C Collaborative Intensity

### S Group and New Wilder Collaboration Factors Inventory (NWCFI)

Case C presented 14 factors in most categories mismatch compared with successful collaborative factors in Case A and B because of company C's attitude, value appropriation effect, cognitive distance and culture gap.

Company C and S Group were a poor collaborative match under 14 factors. Those factors include experienced firm likes S Group should be focal firm, exchange activities, appropriate cross section of members, ability to compromise, mutual respect and trust, commitment, sharing, shared benefits, multiple layers of participation, flexibility, open and frequent communication, satisfaction of complementary resources needs, yielding interest, and hostage arrangement. These factors are noted in italicized, bold letters with darker shadow: the mismatched factors in Table 9 are sufficient to lead the collaboration into crisis. The failed collaboration exhausted tremendous resources from both participants. No collaborative value could be created, and further analysis is unnecessary for Case C.

### The Necessary aspects in Collaboration Model

Three necessary aspects were led out through three cases analysis and let us consolidate following results.

Collaborative Intensity (CI): Case A collaborative intensity includes NCR (necessary of complementary resources), CM (collaborative motivation) and CU (collaborative urgency) 3 categories.

Case B collaborative intensity includes NCR, CM, CU and CRM (collaborative risk management 4 categories.

Case C collaborative intensity includes NCR, CM and CU 3 categories.

The comprehensive table as table 5.

Table 5: The Collaborative Intensity from 3 Cases

Collaborative Intensity				
Category	Index	Case A	Case B	Case C
NCR	CI 1	I	I	I
CM	CI 2	I	I	I
CU	CI 3	I	I	I
CRM	CI 4	E	I	E
NCR: Necessity of complementary resources				
CM: Collaborative motivation				
CU: Collaborative urgency				
CRM: Collaborative risk management				
I: Include E: Exclude				

The collaborative intensity constructs from NCR, CM, CU and CRM can be regarded as residual. More clear express in formula as below:

$$CI = f(CI\ 1 + CI\ 2 + CI\ 3) + CI\ 4$$

#### New Wilder Collaboration Factors Inventory (NWCFI)

Besides 20 factors with 6 categories, 6 new factors findings with 7 categories in success factor in case A, 8 new findings with additional category (8 categories) in case B and 14 factors with 5 categories mismatch compare case A (only one category- Purpose match with case A). The comprehensive as table 6

**Table 6: The NWCFI from 3 Cases**

New Wilder Collaboration Factors Inventory (NWCFI)					
Category	Index		Case A	Case B	Case C
Environment	NWCFI 1	History of successful collaboration and experience in the community.	I	I	F
		Leadership in the market is capable to endorse partner's position.	I	I	I
		Favorable political and social climate.	I	I	I
Resources	NWCFI 2	Appropriate capability	I	I	I
		Skilled leadership	I	I	F
Membership	NWCFI 3	Mutual respect, understanding, and trust.	I	I	F
		Appropriate cross section of members.	I	I	I
		Members regards interest can be increased within collaboration.	I	I	F
		Ability to compromise	I	I	F
		<i>Commitment (New finding)</i>	I	I	F
		<i>Sharing (New finding)</i>	I	I	F
Process and structure	NWCFI 4	Members share a stake in both process and outcome.	I	I	F
		Multiple layers participant collaborative activities.	I	I	F
		Flexibility	I	I	F
		Development of clear roles and policy guidelines.	I	I	I
		Adaptability	I	I	I
		Appropriate pace of development	I	I	I
Communication	NWCFI 5	Open and frequent communication	I	I	F
		Established informal relationships and communication links.	I	I	I
Purpose	NWCFI 6	<i>Satisfaction of complementary resources needs (New finding)</i>	I	I	F
		Concrete, attainable goals and objectives.	I	I	I
		Share vision	I	I	I
		Unique purpose	I	I	I
<i>Management (New finding)</i>	NWCFI 7	<i>Yielding interest (New finding)</i>	I	I	F
		<i>Hostage arrangement (New finding)</i>	I	I	F
		<i>Joint learning (New finding)</i>	I	I	F
<i>Favor (New finding)</i>	NWCFI 8	<i>Timely favor (New finding)</i>	E	I	
		<i>Awareness (New finding)</i>	E	I	

I: Include E: Exclude F: Fail to implement

The NWCFI was constructed from 6 categories in existing WCFI and 7<sup>th</sup> category, 8<sup>th</sup> category can be regarded as residual. More clear express in formula as below:

$$NWCFI = f(NWCFI\ 1 + NWCFI\ 2 + NWCFI\ 3 + NWCFI\ 4 + NWCFI\ 5 + NWCFI\ 6 + NWCFI\ 7) + NWCFI\ 8$$

### **Collaborative Value (CV)**

Besides case C fail to create value, case A and case B both companies created the values via their appropriative resources and deliver it to customers side to help customer in business competitiveness. The comprehensive as table 7

**Table 7: The CV from 3 Cases**

Collaborative Value				
Category	Index	Case A	Case B	Case C
AR	CV 1	I	I	N
VC	CV 2	I	I	N
VCA	CV 3	I	I	N
VAE	CV 4	I	I	N
VD	CV 5	E	I	N
AR: Appropriative Resources				
VC: Value Creation				
VCA: Value Capture				
VAE: Value appropriation effect				
VD: Value Diffusion				
I: Include E: Exclude N: No value creation				

The CV was constructed from 4 categories. More clear express in formula as below:

$$CV = f(CV\ 1 + CV\ 2 + CV\ 3 + CV\ 4) + CV\ 5$$

### **DIALECTIC LITERATURE**

It is an extension of the existing frameworks that are connected via the variables of individual effort and Group productivity, which are present in our case study; the latter consists of model quality and consensus, which are both important products of the model building.

The consuming habit is changing frequently in diversified market and cooperative activities increasingly among firms has been contributed the wide range of academic researching in successful factors of collaboration. Numerous scholars have added elements to the WCFI. For example, Ellen Perrault, Robert MoClenlland, Carol Austin and Jackie Sieppert (2011) proposed learning and leadership sharing.

In case A, we argued 6 more successful factors more than WCFI and one new category can be formed by 3 new factors, we build new WCFI. Additionally, in case B, 2 more new factors findings and a new category van be formed and case C mismatch 14 factors with WCFI and caused collaboration fail, it is significant that WCFI impact collaborative performance and led collaboration fail if participants diverge from WCFI.

This paper has more deeply investigate not only verify WCFI and new successful factors findings to form NWCFI but also review whole scope of collaborative activities on multiple perspectives of resources exchange and value creation.

Regarding the value, previous literature seldom discusses value, however, because "value" exists in the cognitive gap between the subjective and objective and between theoretical and practical knowledge. Value creation (VC) and value capture (VCA) are discussed in strategic management theory and practical research. As Adegbesan J. Adetunji (2010) argued that "How to create value through internal collaborative cooperation, and why inconsistent results appear in firms' value creation and value capture?" To find out this answer, firm success depends not only on its internal resources and capabilities, but also on how it manages its collaborations and dependencies with external partners. The complicated

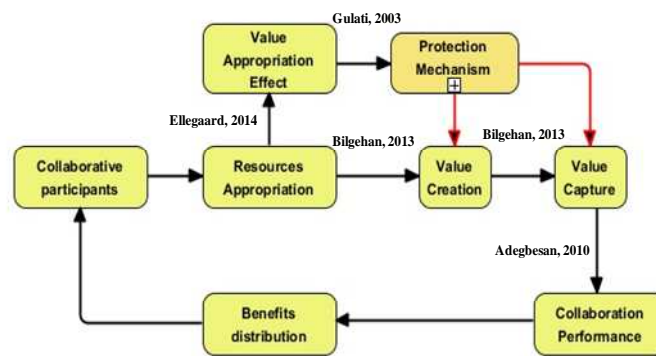
interactive relationship exist in individual RA of participant; conduct VAE and affect VC and value capture (VCA) directly (Bilgehan Uzunca, Richard Tee and Dmitry Sharapov, 2013).

Since firms' resources are inconsistent, firms' appropriative resources (AR) will be exists in asymmetry mode. The large firms always own tremendous resource and dominate the collaborative projects to be the focal firm (Zainab Zamir, Arooj Sahar and Fareeha Zafar. 2014). Ryalls, L.J. and Holt, S. (2007) found that large firms turn to use asymmetric information in pricing negotiations to ask more proprietary benefit feedback. It is inevitable that a mighty asking private benefit feedback must be greater than common benefit. The SMEs which owns fewer resources must enhance bargaining power based on its AR in alliance (Devi R. Gnyawali and Byung-Jin Park, 2009). It is firms' nature intend to take a mechanism to protect its appropriative resources. The protection mechanism conduct from VAE is unable to create new value, only helping to determine the relation rent distribution with focal firm instead (Gulati R, Wang LO. 2003; Khanna T, Gulati R, Nohria N.,1998; Hamel G., 1991).

The focal firm needs to be equipped with matured experiences and coordinate ability to manage strategic collaborative activities such as bridge the cognitive distance, raise the ability in resources exchanging, avoid partner misappropriate others value, improper internalization, eliminate VAE crisis that from inconsistent private benefit distribution. Although the appropriative resources can conduct value creation (VC) but also lead value appropriation effect (VAE). (Ellegaard Chris, Medlin Christopher, Geersbro Jens, 2014). Actually, the VC and VCA have always been core topics in strategic management theory and practical research. These trends are exposure that "value" of this concept is becoming a main stream research in practical administration and strategic management. Collaborative VC is seldom discussed and verify through qualitative case study in the past. Each individual participant will create different value contribution based on appropriative resources. But as a result of cognitive distance in value and conduct the knowledge, technology, and even customer relationship in concealment that resulting in distrust, communication barriers and lead collaboration fail.

The value creation (VC) could be regarded as new or innovative value from collaborative activities. The firms utilize effective leverage in alliance activities apply to exchange and merge each others' resources and to create interest which cannot be made by other organizations' governance structure to achieve. The value appropriation effect (VAE) can be regarded as firms ensuring that its own appropriative resources not for partner misappropriation and improper internalization in the trading process, and implement a protection mechanisms to secure the final value belong to their own or at least profits distribution will be fair (Ellegaard Chris, Medlin Christopher, Geersbro Jens, 2014).

Therefore, the relationship among RA, VC, VAE, and VCA can be hypothesized as following figure 13 on the basis of above related collaboration theoretical background.



**Figure 13: Relationship Framework among RA, VC, VAE, and VCA**

The empirical framework in case analysis is similar with theoretical framework as figure 20 and that help us emerging our suitable collaborative successful model researching.

## DISCUSSION AND CONCLUSIONS

### Discussion

#### The collaborative Intensity

After analysis of case A, B, C, we can resulting three aspects in successful collaboration need to be considered; collaborative intensity (CI), new wilder collaboration factors inventory (NWCPI), collaborative value (CV).

The case study suggests the possibility of creating a collaborative path derived from content analysis.

The first step in doing so is to assess parties' collaborative intensities. In three cases, S group and company A, B and C had independent reasons to seek a partner.

The second step in creating a collaborative path is to identify collaborative factors. S group needed strategic management to resolve the conflict and to assure collaborative performance.

The third step is to identify collaborative value flow, which is composed of asymmetric appropriative resources, value creation, and value capture. Value creation comes from each partner's asymmetric appropriative resources to create value capture for customers.

Our case study method revealed that the first motivation for collaboration is acquiring complementary resources. Partners need to assess the necessity and benefits of complementary resources to identify collaborative intensity (CI) and intensity influences collaborative performance

**Proposition 1:** *The collaborative intensity exist a significant positive effect on collaborative performance*

Collaborative Factor become more apparent as collaborative intensity strengthens. Conversely, the greater the number of collaborative factors, the greater the collaborative intensity. Therefore, we propose Proposition 2.

**Proposition 2:** *Collaborative intensity and NWCPI exists a significant positive influence mutually*

NWCPI is fundamental to the success or failure of all collaborations. The six new collaborative factors that emerged in this research were particularly relevant to the possibility of successful collaboration in Cases A and B. Therefore, we propose Proposition 3.

**Proposition 3:** *NWCFI exist significant positive relationships with collaborative performance*

Each collaborating party has diverse, inconsistent appropriative resources. We noted that social loafing, free riders, and opportunism arise when parties concerned with their own resources become preoccupied with their partner's value appropriation effect. We propose Proposition 4a.

**Proposition 4a:** *Appropriative resources can generate value appropriation effect.*

Conversely, appropriative resources create new value. New value cannot be created if participants lack appropriative resources. We propose Proposition 4b.

**Proposition 4b:** *Appropriative resources perform value creation.*

An appropriative resource enhances value creation but through the value appropriation effect can damage value creation, collaborative intensity, and the benefits of NWCFI, and performance. We propose Proposition 5a.

**Proposition 5a:** *The value appropriation effect can impair value creation.*

The VAE not only impairs value creation but also thwart the influence of NWCFI on collaborative performance. We propose Proposition 5b.

**Proposition 5b:** *Value appropriation effect can highly dilute the contribution of NWCFI and moderates its positive relationship with collaborative performance.*

The value appropriation effect may also dampen collaborative intensity and moderate its contribution to collaborative performance. We propose 5c proposition.

**Proposition 5c:** *The value appropriation effect can diminish collaborative intensity and moderate its contribution to collaborative performance.*

Since value creation results from the efforts of all collaborators, it is more than individual businesses separate resource, which could not be created. Stronger ability to create value will result in passing greater value to partners and customers. Therefore, we propose Proposition 6.

**Proposition 6:** *Value creation relate to value capture significantly.*

When customers capture greater value, collaborations are more successful. Therefore, we propose Proposition 7.

**Proposition 7:** *Value capture relates to collaborative performance significantly if customer satisfies new value.*

Our research uncovered three control variables related to collaborative performance. First, as a large enterprise S Group generally found it easier to upgrade its collaborative performance. Second, established firms have greater managerial experience and present higher probabilities for successful collaboration. Third, firms with healthy finances and broad vision are better suited for successful collaboration. Therefore, we propose Proposition 8.

**Proposition 8:** *Finance base, Firm size and collaborative experience relate to collaboration durative performance.*

These propositions complete the collaborative route and yield the preliminary framework for collaboration presented in Figure 14.

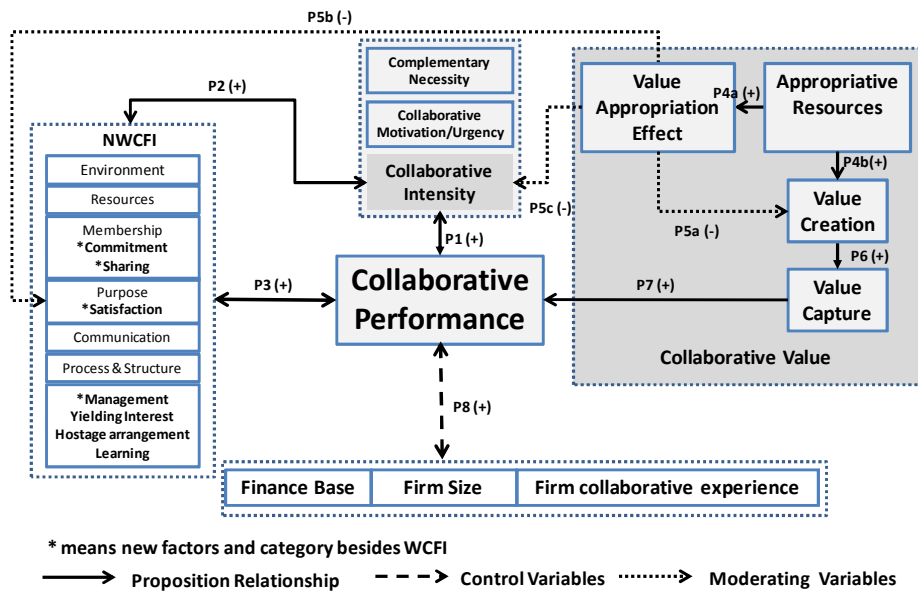


Figure 14: The Successful Collaboration Model from Empirical Case Study

The Model in Figure 14 Generates the Following Formula

$$\begin{aligned}
 Y(\text{Collaborative Performance}) &= f(\text{Collaboration Constructs}) \\
 &= \beta_0 + \beta_1 CI(\beta_2 NWCFI * \beta_{5c} VAE) + \beta_3 NWCFI(\beta_2 CI * \beta_{5b} VAE) \\
 &\quad + \beta_7 VCA(\beta_6 VC(\beta_{4b} AR * \beta_{5a} VAE(\beta_{4a} AR))) + \beta_8 (FB * FS * FE) + \varepsilon
 \end{aligned}$$

**Y:** Collaborative Performance

**$\beta_0$ :** Collaboration constant

**$\beta_1$ :** CI versus CP coefficient

**$\beta_2$ :** CF versus CI coefficient

**$\beta_3$ :** CF versus CP coefficient

**$\beta_4$ :** AR versus VAE coefficient

**$\beta_{4a}$ :** AR versus VC coefficient

**$\beta_5$ :** VAE versus VC coefficient, Negative

**$\beta_{5a}$ :** VAE versus CG coefficient, Negative

**$\beta_{5b}$ :** VAE versus CI coefficient, Negative

**$\beta_6$ :** VC versus VCA coefficient

**$\beta_7$ :** VCA versus CP coefficient

**$\beta_8$ :** FS, FE, FB versus CP coefficient

**$\varepsilon$ :** Error value/Residual

**CP:** Collaborative Performance

**CI:** Collaborative Intensity

**CF:** Collaborative Factors

**AR:** Appropriative Resources

**VAE:** Value Appropriation Effect

**VC:** Value Creation

**VCA:** Value Capture

**FS:** Firm Size

**FE:** Firm Collaborative Experience

Higher values for CI, NWCFI, and VCA engender greater CP, but CP will be offset by VAE. The greater influence of AR will be apparent in VC and then VCA and ultimately CP, but VC will be diminished by VAE.

The case study reveals that successful collaborations share three imperatives. First, partners must share equal degrees of collaborative intensity—i.e., a sense of urgency, willingness to invest resources, and commitment to their responsibilities. Second, collaboration must be based on a complete set of collaborative factors. Cases A, B, and C indicate the need for adding six new factors to the customary WCFI. Third, participants must have individually asymmetrical appropriative resources to create value and transfer it to the customer.

Those three imperatives underlie the process we call Successful Collaborative Route (SCR).

## CONCLUSIONS

Our research resulting 6 new factors findings compare Mattessich's WCFI that possible reasons are different culture, mindset between western and Asian enterprises.

The case study and its resulting model demonstrate that Collaborative Intensity(CI), New Wilder Collaboration Factors Inventory(NWCFI), Collaborative Value(CV) to construct successful collaboration model and form a Successful Collaboration Route (SCR).

This thesis has presented a new model of industrial collaboration based on a multiple case study of a large Taiwanese electronics component distributor and four Chinese SMEs.

The managing implication emerging as the CI is first entry criteria for collaboration, NWCFI is key variable to decide collaboration can success or fail, the CV is final result to impact performance directly. Both parties must have equal urgency to collaborate and bring complementary qualities to the collaboration. Those qualities must have asymmetrical resources that give each its relevance to the creation of value from the partnership. That created value must be transmitted to the ultimate customer, and the transmission of value proves the overall performance of the collaboration.

Difficulties arise, however, because these qualities can work at odds. Firms have an inherent impulse to resist the appropriation of their special competencies by partners. The failure to share fully can offset positive correlations among CI, NWCFI, and CV.



Our model and its empirical formulation contribute to the literature and guide practitioners through today's global trend to collaborate for achieving and sustaining competitive advantage. In particular, they will assist practitioners in choosing suitable partners for collaboration, avoiding its pitfalls, and managing the progress of collaboration to assure its desired outcomes.

This research employed a qualitative study of four cases. Although it satisfies conditions sufficient for theoretical saturation and yields data sufficient to conceptualize a model, it was limited to the electronic components industry in Asia. Future studies need to verify its results in case studies involving other industries and continents.

## CONFLICTS OF INTEREST

The authors declare no conflicts of interest regarding the publication of this thesis.

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